

Applicant(s): P. Bonutti
Application No.: 09/925,551
Examiner: V. Bui

Remarks

Claims 71-108 are pending in the application and are presented for the Examiner's review and consideration. Claims 71, 76, 91, and 96 have been amended and claims 1-70 have been cancelled. Applicant believes the claim amendments, cancellations, and accompanying remarks herein serve to clarify the present invention and are independent of patentability. No new matter has been added.

Double Patenting

Claims 71, 77-79, 91, 98-99, and 104-105 were rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 9, 19, 33, 106, and 118 of U.S. Patent No. 5,989,282. The Examiner states that "although the conflicting claims are not identical, they are not patentably distinct from each other because they cover the same main subject matter of the inventions claimed by both the present invention and U.S. Pat. 5,989,282."

In response, Applicant submits herewith a Terminal Disclaimer to obviate the double patenting rejection. It should be understood that the Terminal Disclaimer is being filed to expedite prosecution and should not be construed as an admission that the Terminal Disclaimer is necessary.

35 U.S.C. §102(e) and §103(a)-McGuire.

Claims 71-75, 79-80, 82-85, 87-92, 94-95, 99-100, 102-105, and 107-108 were rejected under 35 U.S.C. §102(e) as anticipated by U.S. Patent No. 5,865,834 to McGuire. ("McGuire"). Claims 77-78, 81, 86, 93, 97-98, 101, and 106 were rejected under 35 U.S.C. §103(a) as unpatentable over McGuire.

For the reasons set forth below, Applicant respectfully submits that claims 71-75, 77-95, and 97-108 are patentable over McGuire. The Examiner states that:

McGuire (Figs. 1, 4a-4b, 5-6; col 9, ll. 60-64) discloses autogenous bone or freeze-dried bone anchor/plug 25, suture 27, cutting tool 33 to cut out autogenous

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bone plug 25, elongate member/drill to form passages for suture 27 in bone plug 25. Allograft bone plug can be provided from a freeze-drying process.

McGuire discloses a reconstruction ligament 10 for a knee joint. (Col. 2, lns 52-53). The two major bones that meet at the knee joint are the tibia 12 and the femur 14, a bone tunnel 16 is drilled through each of these two bones. (Col. 2, lns. 17-19). It is preferable to use a coring reamer to drill the bone tunnels, where the reamer drills out a core of bone through each of the bone tunnels. (Col 2, lns. 21-23). The bone core can then be used to form a bone plug in the composite graft that will be replaced when reconstructing the ligament. (Col. 2, lns. 23-26).

The semitendinosus tendon 20 and/or gracilis 21 is extended between both of the bone plugs. (Col 6, lns. 57-58). Sutures are also used through the suture holes to attach the tendon to each of the bone plugs. (Col. 6, lns. 62-63).

The sutures may be pulled on to properly tension and locate the graft within the bone tunnels. (Col. 9, lns 25-26). The sutures 84 hanging out from one end of the composite graft are attached to a needle, a passer or other conventional graft placement tool. (Col. 9, lns 17-20). The passer is inserted through the skin on the posterior side of the knee. (Col. 9, lns. 20-22). The passer is removed leaving the suture hanging from the posterior end of the graft and a suture at the other end of the graft hanging out through the tibial incision. (Col. 9, lns. 22-25). The sutures may be pulled on to properly tension and locate the graft with the bone tunnels. (Col. 9, lines 25-26). Fixation of the graft can be accomplished with a headless cannulated interface screw. (Col. 9, lns. 30-31).

In contrast, amended independent claim 71 recites a method of anchoring a suture. The method includes freeze drying body tissue. A suture is inserted into a passage in the freeze dried body tissue. The freeze dried body tissue is inserted into a patient's body with the suture extending through the passage, wherein the suture can freely slide through the passage.

McGuire discloses a composite graft for a reconstruction ligament. The composite graft includes bone plugs with a tendon wrapped therearound. The bone plugs can include suture holes therethrough for passing a suture through to secure the tendon to the bone plugs. Additionally, the sutures at each end of the graft can be used to properly tension the composite

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graft once positioned in the bone tunnels in the femur and the tibia. The composite graft can be tensioned by pulling on the ends of each suture. As such, the sutures are not free to move through the bone plugs, otherwise the tendon would not be secured to the bone plugs and the suture would be incapable of being pulled on to tension the composite graft.

Accordingly, Applicant submits that McGuire does not expressly or impliedly suggest all of the elements of amended claims 71. In light of the foregoing, amended independent claim 71 is respectfully submitted to be patentable over McGuire. As claims 72-90 depend from claim 71, these dependent claims necessarily include all the elements of their respective base claim. Accordingly, Applicant respectfully submits that the dependent claims are allowable over McGuire at least for the same reasons.

Claim 91 recites a method of retaining portions of first and second tissue elements in a patient's body against movement relative to each other. The method includes the step of freeze drying body tissue. The freeze dried body tissue engages at least one of the first and second tissue elements in the patient's body, securing the first and second body tissue elements together. The first and second body tissue elements are secured together by transmitting force between the first and second tissue elements through the freeze dried body tissue, such that the first and second tissue elements are retained against movement relative to each other.

As noted above, McGuire discloses a composite graft for a reconstruction ligament. The composite graft includes a pair of bone plugs with a tendon wrapped there around. The tendon can be secured to the bone plug with sutures. The bone plugs are inserted into the bone tunnels in the femur and tibia, and affixed thereto. The tendon disposed between the bone plug is likewise disposed between the femur and tibia, allowing relative movement between the femur and the tibia. McGuire does not disclose using the bone plugs to secure the femur to the tibia, preventing relative movement with respect to each other.

Accordingly, Applicant submits that McGuire does not expressly or impliedly suggest all of the elements of amended claims 91. In light of the foregoing, amended independent claim 91 is respectfully submitted to be patentable over McGuire. As claims 92-108 depend from claim 91, these dependent claims necessarily include all the elements of their respective base claim.

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Accordingly, Applicant respectfully submits that the dependent claims are allowable over McGuire at least for the same reasons.

Objected Claims

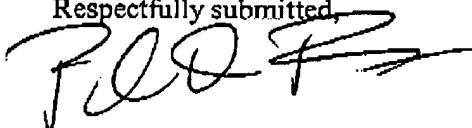
The Examiner objected to claims 76 and 96 as being dependent on rejected base claims, but would be allowable if rewritten in independent form including all of the limitation of the base claim and any intervening claims. Applicant has rewritten these claims as required by the Examiner. Accordingly, Applicant respectfully submits that claims 76 and 96 are in condition for allowance.

Conclusion

In light of the foregoing remarks, this application is now in condition for allowance and early passage of this case to issue is respectfully requested. If any questions remain regarding this amendment or the application in general, a telephone call to the undersigned would be appreciated since this should expedite the prosecution of the application for all concerned.

A fee for a Terminal Disclaimer (small entity) of \$55 is believed to be due for this submission and a Fee Transmittal Sheet is submitted concurrently herewith. However, please charge any additional required fee(s) (or credit any overpayments of fees) to the Deposit Account of the undersigned, Account No. 500601 (Docket No. 780-A03-013-3).

Respectfully submitted,



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